Educational Systems and Inequalities in Educational Attainment in Central and Eastern European Countries

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Educational Systems and Inequalities in Educational Attainment in Central and Eastern European Countries

Irena Kogan*, Michael Gebel & Clemens Noelke

Abstract

Before exploring the selectivity of educational attainment in detail, this article extensively describes the contours of educational systems in Central and Eastern European (CEE) countries. These countries provide an interesting setting in view of their post-secondary education expansion and differentiation, as well as their variation in the degree of vocational orientation at the secondary level. Drawing on high quality, national micro data, we find that students from disadvantaged family backgrounds who manage to enter post-secondary education are 'diverted' to second-tier post-secondary institutions, while long-term university programs are more likely to be dominated by students whose parents have an academic background. At the secondary level, we confirm the patterns of negative selection among students from lower social backgrounds into lower vocational programs. This diversion effect at the secondary level is especially pronounced in CEE countries that inherited a strong secondary vocational system and reinstalled early tracking.

Keywords: social inequality, educational attainment, Central and Eastern Europe, comparative research, educational systems.

Introduction

The transformation process in Central and Eastern Europe (CEE) has hardly left any aspect of economic, social and political life unaffected; the educational system being no exception. In this paper, we attempt to explore the developments at the secondary and tertiary levels of education and examine their implications for patterns of social inequality in post-socialist CEE countries. We pursue both descriptive and analytical goals.

First, we describe how educational systems have changed and which institutional configurations of education systems could now be found in CEE countries. Given rapid structural changes, globalization and population ageing, policy makers across Europe face similar challenges of how to best design education systems in order to prepare young people for productive labour market careers. The experience from Western countries has shown that historically, two main institutional solutions have emerged (Müller & Wolbers 2003). On the one hand, Central European countries, like Germany and Austria, have emphasised vocational education programs at the secondary level seeking to prepare young people for skilled work positions in industry and services. On the other hand, typical of the Anglo-American tradition, the expansion of post-secondary and tertiary education has occurred largely through privatization and marketization of education, to enable higher education access on a mass scale (Gebel & Noelke 2011). In this article, we describe the current structure of educational attainment in nine CEE countries: East Germany, the Czech Republic, Croatia, Serbia, Slovenia, Hungary, Poland, Ukraine, and Russia. Also, using the example of the Czech and Russian cases, we trace path dependencies in the evolution of their educational systems. We show that Central and

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Eastern European countries have developed comparable approaches (to Western European countries) of either strongly vocational-oriented secondary education systems or strongly expanded tertiary education systems.

Second, we conduct a cross-national comparison of the social selectivity of educational attainment in CEE countries. Understanding how different education systems generate or mitigate social inequalities in education is a central aim of social stratification research. Particularly in view of the strong tertiary education expansion and differentiation in some CEE countries as well as the strong secondary vocational education orientation in other CEE countries, the question arises how education attainment depends on social origin in these different institutional settings. While there are comparative studies on the social inequality of educational attainment largely pertaining to Western societies (Arum et al. 2007, Breen 2004, Shavit & Blossfeld 1993), with the exception of the recent study by Kogan et al. (2011), hardly any other comparative research exists for a larger set of CEE countries. One notable exception is Iannelli (2003) who – comparing a number of European countries – finds that the relative advantage of having more educated parents is stronger in the Eastern European countries than in Nordic European countries. A pronounced intergenerational inheritance of education in CEE countries, therefore, calls for further in-depth investigation. We will complement the scarce evidence by analysing the degree of social selectivity at both secondary and tertiary educational levels in seven CEE countries (East Germany, the Czech Republic, Croatia, Serbia, Hungary, Poland, and Ukraine) drawing on high quality, individual level data.

The paper is organised as follows. In the next section, we will present evidence on educational attainment in CEE countries, focusing on the organization and differentiation at both secondary and tertiary levels. The following section provides the theoretical background on the nexus between social origin and educational attainment and formulates hypotheses. In section 4, we describe the data and methodology. Analyses of social selectivity follow, through a comparison of young people's educational attainment upon leaving education for the first time with their parents' educational background. In a concluding section, we discuss results in light of the social reproduction theories.

Education systems in Central and Eastern Europe

The basic features distinguishing education systems in post-socialist CEE countries today have been established under socialism. While lower secondary education has traditionally been comprehensive until the ninth grade, upper secondary education has been highly stratified. With some qualifications, all CEE countries have developed a tripartite structure at the upper secondary level, distinguishing three main tracks: lower vocational, secondary general and upper vocational (see Kogan 2008, Noelke & Müller 2011). Mobility between these tracks has been limited, and tracks have differed in their duration, curricula, and linkages to employers, quality and opportunities for access to higher education. Lower vocational programs have generally provided no access to universities and rather prepared individuals for semi-skilled and skilled manual work in agriculture and industry. In the past, lower vocational schools were often attached to specific firms, which participated in financing vocational schools and especially in training vocational students on the job. Secondary general and upper vocational programs have both provided access to higher education, with secondary general being a traditional route to university education. Compared to lower vocational programs, upper vocational degrees have paved the way to more prestigious, non-manual occupations, including technician and clerical jobs.

A key difference between CEE countries already present under socialism has been a stronger vocational orientation in secondary education of Central European countries compared to the Soviet Union (see examples of the Czech Republic and Russia in Figure 1). While particularly lower vocational programs were notoriously unpopular in the Soviet Union (or Russia as in the example), they often

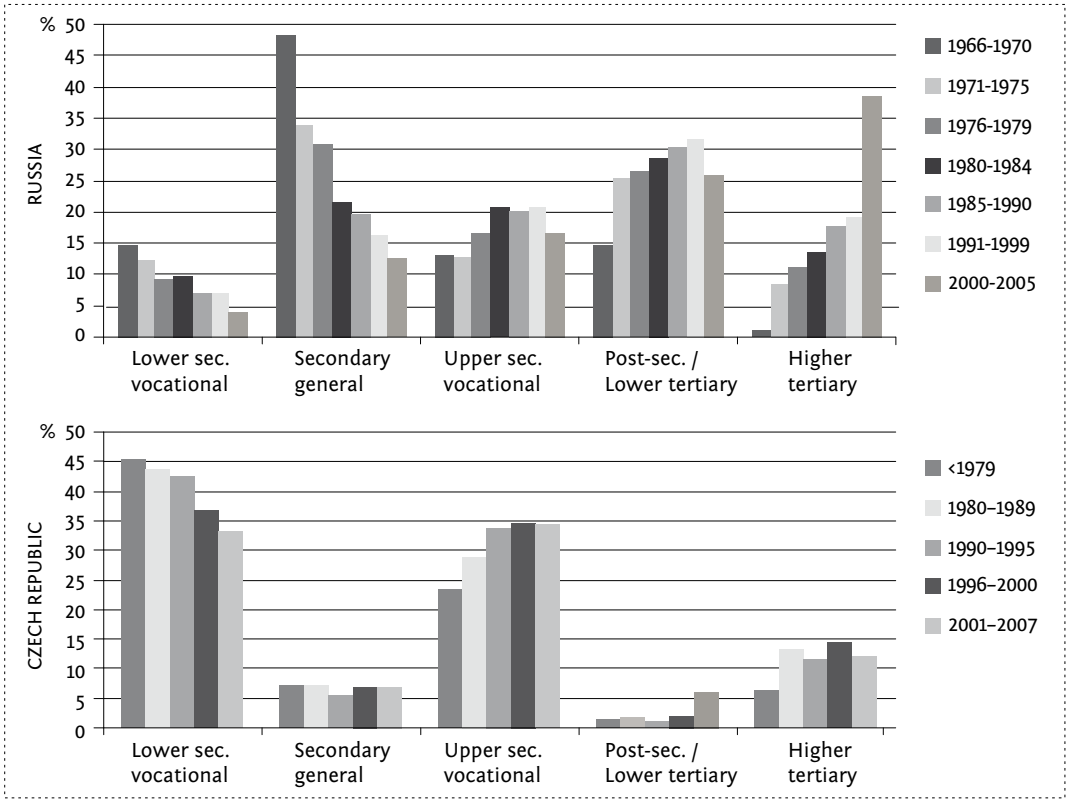

Figure 1: Educational attainment in the cohort perspective, Russia and the Czech Republic compared
Source: Data from the project 'Education systems and labour markets in Central and Eastern Europe'

accounted for the majority of labour market entrants in Central European countries (as in the Czech Republic). In the latter group of countries, the tertiary education sector was, in general, rather small, exclusive and dominated by a system of traditional universities, technical universities and few vocational colleges. In the former Soviet Union, university enrolment also lagged behind, while post-secondary education in technical colleges (*technikums*) was more popular.

Overall, tertiary education in Central European countries experienced intermittent expansion, but remained highly exclusive with enrolment rates below advanced Western countries. This could be partially explained by the state being much more interested in producing lower-grade specialists, i.e. technicians, clerks, book-keepers, who were expected to run industrial production and socialist bureaucracy. Tertiary educated intellectuals, the so-called *intelligentsia*, have often been critical towards the ruling regime and less detrimental to the self-proclaimed goals of industrial hegemony in socialist countries. Low wage differentials between tertiary educated and skilled manual workers or technicians contributed to disincentives on the part of the CEE population to invest in higher education.

The transition to capitalism provided a window of opportunity for change in the education systems in Central and Eastern Europe. While initial conditions differed and subsequent developments are characterised by path dependencies, we can observe common dynamics across the region. At least in terms of enrolment, all CEE countries have witnessed educational expansion at the tertiary level, which in some countries has grown at a speed hardly ever observed in Western societies (Kogan 2008). Tertiary education expansion occurred both in the countries with already quite high

levels of post-secondary education participation, as well as countries with a more elitist higher education. Educational expansion at the tertiary level at the same time has often implied institutional differentiation. Expansion and diversification has occurred through the upgrading of (post-)secondary vocationally oriented programs to the tertiary level and through the emergence of private and public tuition-charging providers. At the secondary level, we also observe substantial enrolment shifts mainly out of dead-end, lower vocational programs into secondary programs that give access to higher education. Despite apparent level differences, this trend has been uniform for countries with quite extensive vocational sector at the secondary level (as in the Czech Republic, see Figure 1) and countries emphasizing secondary general education (as in Russia, see Figure 1).

Secondary education: change and continuity

With the breakdown of socialist regimes and the lifting of formal barriers on educational choices, many young people in the region opted for more general and higher education. Postponing labour market entry until more stable economic times as well as the expectation of increasing returns to tertiary education probably were key factors that contributed to these shifts in enrolment. Furthermore, for individuals and employers alike, general skills may have been more versatile, as they do not become obsolete in the course of technological change and may even facilitate the adoption of new technology (Kézdi 2006, Krueger & Kumar 2004).

Another major consequence of transformation was the growing unpopularity of lower vocational schools (see Kogan et al. 2008). Curricular contents and occupational specialties became increasingly obsolete in the course of economic restructuring, while the gap in returns to higher versus low vocational education was rising. Possibly even more detrimental was the fact that as a consequence of privatization many enterprises withdrew from providing training places to lower vocational school students. Thus, a crucial link to the labour market for vocational school students broke down. Given the traditionally more important role of vocational education for industrial employment, particularly Central European countries made attempts to revive employer involvement in vocational education and training. However, there is little indication that this form of voluntary cooperation of employers has surfaced in other CEE countries on a substantial scale (Kogan et al. 2011).

Lastly, transformation brought about the re-emergence of early tracking. Even though this practice had been discredited under socialism, early tracking at the lower secondary level was reinstalled in the Czech Republic, East Germany and Hungary. Because of the reintroduction of six- or eight-year gymnasia, sometimes offered by private or church providers, students have been again sorted into distinct educational programs, which strongly influence their future career chances, at age 10 or 11, as opposed to age 15.

Table 1 presents the outcome of these developments in terms of the distribution of educational degrees among the most recent cohorts of school leavers in ten CEE countries. In East Germany, the Czech Republic, and the countries that have emerged from the Socialist Federal Republic of Yugoslavia (SFRY), we still observe very high shares of graduates with vocational degrees among young people who enter the labour market with a secondary degree. Despite enrolment shifts out of lower vocational programs, still more than 40% of recent secondary graduates obtain the respective degree (see the second line for each country in Table 1), which continues the pattern already observed under socialism and is indicative of the continuing attractiveness of such programs. Also, upper vocational programs have relatively large enrolment. In the Czech Republic and post-SFRY countries, about 50% of labour market entrants obtain an upper vocational degree. In contrast, general secondary education, which constituted the central pathway to higher education under socialism, apparently still continues to perform this function: the relative share of general secondary graduates entering the labour market directly is marginal, suggesting that many of them continue on to higher education.

Table 1: Distribution of educational degrees among recent school leavers, percentages[1]

	Lower secondary or less	Lower vocational	Secondary general	Upper vocational	Post-secondary, lower tertiary	Higher tertiary
East	17.6	42.1	9.1	12.0	6.7	12.6
Germany		66.6	14.4	19.0	34.7	65.3
Czech	6.0	33.4	6.8	37.6	6.0	10.2
Republic		42.9	8.8	48.3	37.0	63.0
Croatia	1.5	31.0	3.0	23.5	13.1	27.9
		53.9	5.3	40.9	31. 9	68.1
Serbia	3.2	27.1	3.2	27.1	13.4	26.0
		47.2	5.6	47.3	34.1	65.9
Slovenia	9.8	22.8	4.5	27.2	2.8	33.1
		41.9	8.2	49.9	7.7	92.3
Hungary	16.2	13.4	24.9	20.7	18.4	6.4
		22.7	42.2	35.1	74.3	25.8
Poland		18.3	18.0	27.7	16.8	19.2
		28.6	28.1	43.3	46.7	53.3
Ukraine	8.6	1.9	16.9	18.3	29.8	24.7
		5.0	45.7	49.3	54.7	45.3
Russia		4.2	12.5	17.7	26.0	38.4
		12.2	36.3	51. 5	40.4	59.6

Source: Calculations on the basis of the data from the project 'Education systems and labour markets in Central and Eastern Europe'. Samples include young people leaving continuous education for longer than one year, excluding interruptions connected to maternity leave, illness or military service.

This pattern appears to almost be reversed in the post-Soviet Union countries. Here graduates from general secondary and upper vocational programs represent the large majority of school leavers with a secondary degree. Lower vocational programs, which were already unpopular under socialism (Gerber 2003), play a marginal role nowadays, while large shares of students acquire post-secondary vocational or higher tertiary qualifications (see below).

Poland and Hungary fall in between the post-Soviet countries and other Central European countries (East Germany, the Czech Republic and the post-SFRY countries). While at the time of transition, lower vocational programs were similar in size compared to the other Central European countries (see Baranowska 2008, Bukodi & Róbert 2008), their numbers shrunk rapidly after 1989, and currently more young people enter the labour market with a general secondary or upper vocational degree.

1 The first row comprises the percentage of graduates in a specific group among all graduates. The second row contains the percentage of graduates with a specific degree among secondary graduates (Lower vocational, Upper General and Upper Vocational) as well as post-secondary/tertiary graduates (Post-secondary/lower tertiary, Higher Tertiary). Information is provided for the following school-leaver cohorts: 2001-06 (East Germany), 2001-07 (Czech Republic), 2000-04 (Hungary), 2001-05 (Poland), 2003-08 (Croatia), 2001-05 (Serbia), 2000-06 (Slovenia), 2001-06 (Ministry of Education and Science in Ukraine), 2000-05 (Russia). For Poland and Russia no information is available for the least educated as the surveys cover individuals older than 18 years old, thus excluding early school leavers. For Russia, higher tertiary education also includes vocationally oriented colleges otherwise grouped as lower tertiary, while post-secondary/lower tertiary comprises of graduates from secondary specialised schools (SSUZ). For Slovenia, higher tertiary also includes three year, higher professional education programs. For East Germany, lower secondary education comprises the levels of Haupt- and Realschule, whereas lower vocational education refers to general education attained Haupt- or Realschule, followed by training in vocational schools or in the dual system. For the other countries, education groups are largely comparable.

Tertiary education: expansion and differentiation

Whereas in socialism student enrolment was determined by quota regulations to meet the manpower needs of planned economies (Galbraith 2003, Scott 2002), in the transformation period, liberalization of educational policy and rising individual demand for higher education translated into the expansion and diversification of higher education.[2] The emergence of private providers and tuition-based public study places introduced new lines of differentiation (in terms of quality, prestige and selectivity) within the higher education sector in CEE beyond the existing ones between universities and second-tier, lower tertiary institutions (Gebel & Baranowska-Rataj 2012).

Universities expanded through the integration of mono-technical institutions into multi-faculty universities as well as the (re-)integration of research institutes, once managed separately by Academies of Science or central ministries under socialism (Scott 2002). Expansion also occurred through the growth and establishment of non-university, so-called 'second-tier' institutions, such as vocational colleges and short-term post-secondary vocational schools.[3] While some of these second-tier institutions were newly founded, others emerged through the upgrading of formerly secondary vocational schools. Growth occurred because emerging labour markets showed an increasing demand for post-secondary qualifications that were less academically orientated and of a shorter duration than those provided by traditional universities (Cerych 1997). In some CEE countries, higher education systems diversified as traditional universities began offering also 'second-tier' education in form of short-term Bachelor programs that allow direct entries into the labour market as well as access to second-degree academic Master courses.[4]

Private sector institutions flourished in a number of countries as well. Relying entirely on enrolment for revenue, they show a stronger consumer orientation (or 'client-seeking' behaviour, Arum et al. 2007: 7), and offer shorter, labour market oriented courses (e.g. business studies), maintain public relations to firms, and they are smaller and more flexible to adapt their curricula according to labour demand (Kwiek 2008). While public universities were traditionally free of charge under socialism, they also began offering tuition-financed places to improve the financial situation in the underfunded public sector (Kwiek 2008). With the introduction of additional tuition-based study places next to the available limited number of state-funded places, public providers reacted also to the increasing individual demand for higher education. While state-funded, usually full-time study places are reserved for (and also preferred by) the best applicants, other applicants get access to tuition-based places that are often arranged on a part-time basis or per correspondence (Simonová & Antonowicz 2006). In a way, public providers have become semi-privatised by depending increasingly on tuition fees (Scott 2002), and they entered direct competition with private providers about less able students.

In the early 2000s, East Germany and the Czech Republic clearly stand out among countries studied here with regard to having a small tertiary sector dominated by traditional universities (see Table 1). The Czech system is more differentiated than the East German one: in East Germany vocational colleges (*Fachhochschulen*) represent a sole second-tier institution, while both short-term post-secondary vocational schools and vocational colleges have emerged in the Czech system. Furthermore, Czech universities had already introduced sequential Bachelor-Master structures in the early 2000s. Poland represents another differentiated system with a sequential degree structure but of bigger size on all dimensions when compared to the Czech one. Hungary reaches a similar size of post-secondary vocational schools and vocational colleges, while the higher tertiary programs remain

2 In the following, 'lower tertiary' refers to post-secondary vocational, vocational college as well as university first degree Bachelor programs, while 'higher tertiary' means solely Master or diploma degrees.

3 Thus, in the typology of Arum et al (2007) all CEE higher education systems we analyze can be considered as binary education systems.

4 In the course of the Bologna process, all universities started to introduce sequentially organized academic programs consisting of first-degree Bachelor courses and second-degree Master studies.

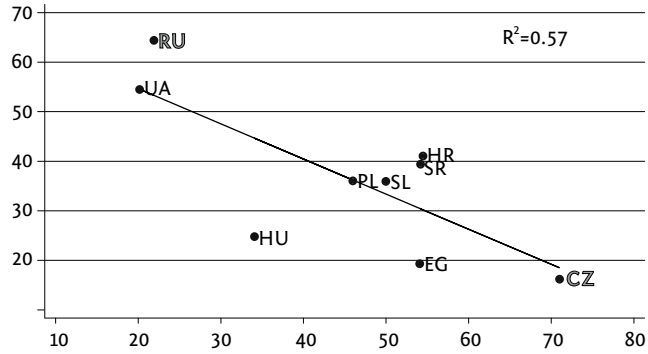

Figure 2: Distribution of educational degrees among recent school leavers[5]
Source: Data from the project 'Education systems and labour markets in Central and Eastern Europe'

rather exclusive. Countries of the former Yugoslavia (Serbia, Croatia, and Slovenia) form another cluster with small or non-existing, short-term, post-secondary vocational schools and expanded traditional universities. Finally, the countries emerging from the Soviet Union analyzed here (Russia and Ukraine) are characterised by both expanded lower and higher tertiary education sectors, the former being somewhat more pronounced in Ukraine than in Russia.

The trade-off between expanded tertiary education and a pronounced vocational sector at the secondary level could also be confirmed for CEE countries. Figure 2 documents a strong correlation between the size of vocational programs and the size of the tertiary sector. The more students enrol and graduate from vocational programs, some who generally do not qualify for access to higher education, the lower seems to be the demand for higher education.

The role of social origin in expanding stratified education systems

Aiming at equality in the access to higher education, the socialist educational system used to positively discriminate in favour of agricultural and industrial workers' families (Köhler & Stock 2004, Róbert 1991, Solga 1995). This resulted in the diminishing effect of social background on access to higher education early on in the socialist period (Bukodi & Goldthorpe 2010, Gerber & Hout 1995, Simonová & Antonowicz 2006, Solga 1995). Inequalities strengthened again thereafter, which can be attributed to the re-establishment of socialist elites who strove to obtain advantages for their children, as well as relatively low monetary incentives for lower social classes to pursue tertiary education (Simonová & Antonowicz 2006, Solga 1995). With the transformation to capitalism, market mechanisms have been reinstalled in the access to higher education, resulting in well-known patterns of social stratification (Erikson & Jonsson 1996). Since entry into a university crucially depends on cultural and economic family resources, more students from advantaged families are admitted, while lower class students remain at a disadvantage.

At the secondary level, a high degree of stratification (in the form of early tracking) coupled with the existence of 'dead end' lower vocational tracks has been argued to lead to strong social inequalities within secondary education. Specifically, a strong vocational system at the secondary

5 In this and subsequent presentations, countries are labelled by acronyms: EG, East Germany; CZ, Czech Republic; HR, Croatia; SL, Slovenia; SR, Serbia; HU, Hungary; PL, Poland; UA, Ukraine; RU, Russia.

level may lead to glaring social inequalities in educational attainment by channelling students from less privileged backgrounds into lower level vocational programs (Müller & Shavit 1998, Shavit & Müller 2000). Students from less privileged backgrounds self-select and/or are sorted into these tracks, which assure rather rapid transition to employment ('safety net effect'), but these are mainly lower status positions ('diversion effect'). Being often formally or effectively dead ends, lower vocational tracks do not allow students from lower social backgrounds to continue to higher education.

Thus, we can expect a stronger selection of students from lower social backgrounds into lower vocational programs, while students from more advantaged family backgrounds should be overrepresented in upper secondary vocational and upper secondary general tracks, which provide access to higher education as well as to better labour market positions. Furthermore, the diversion effect within secondary education might be especially pronounced in CEE countries with early stratification and a higher reputation of vocational training at the secondary level.

There is an ongoing debate about whether educational expansion has been accompanied by a greater social openness of educational tracks allowing students from lower social backgrounds to get access to higher education (Arum et al. 2007, Breen et al. 2009). However, a number of studies have suggested that inequality may not change in response to educational expansion (Shavit & Blossfeld 1993), or that inequality may only decline once transition to a certain educational stage has become nearly universal (Arum et al. 2007, Raftery & Hout 1990). For CEE countries, a number of factors lead us to expect persistence or even an increase in social inequalities. First of all, transformation has led to rising and persistent economic inequalities that are larger than those found in Western Europe (Noelke 2008). In particular, less and vocationally educated workers have been negatively affected in this process, while tertiary educated often benefited. Hence, the declining economic position of less educated families may increase inequalities in tertiary enrolment, particularly in terms of entry into higher tertiary programs, despite increasing education opportunities. Moreover, the market-based elements (tuition-financed public study places, private colleges/universities) may have further compounded social inequalities in tertiary attainment, as mainly respondents of highly educated, financially well-off families are in a position to take advantage of these opportunities. Thus, the overall increase in labour market inequalities among parents should have also lead to growing social disparities in attaining a tertiary degree among their offspring.

Another important factor contributing to the maintenance of social inequality is institutional diversification or stratification within the post-secondary education sector. The emergence and expansion of second-tier institutions that are shorter in duration and more vocationally and labour market oriented introduced a new line of differentiation that maintained social inequality in the access to different tertiary education institutions (Lucas 2001). Students from a disadvantaged family background who gain the permission and have the attitude to enter post-secondary education may be attracted to second-tier institutions. Indeed, if there are more vacant positions in the second-tier sector, lower social class students have incentives to choose these tracks, because the investment costs are lower and success probabilities are higher due to the shorter duration and labour market orientation of these tracks.[6] A similar selection mechanism occurs in sequentially organised university systems (Bachelor-Master programs), in which higher cycles are more selective. After completion of the first cycle, more risk averse and resource-constrained graduates (who are more likely to originate from lower socio-economic background families) will enter the labour market, while more able and motivated students will continue to the second degree, the Master's programs. The continuation to higher academic tracks is a matter of ability and motivation, but beyond ability and motivation, transition to higher academic tracks is constrained in more differentiated higher education systems, since more opportunities exist to divert students from lower socio-economic backgrounds.

6 Recent research has shown that lower tertiary tracks guarantee a rather smooth transition to the labour market (Noelke et al 2012).

Taking these considerations into account, we can expect a stronger selection of students from non-academic family backgrounds into post-secondary vocational and lower tertiary tracks, while long-term university programs should be more dominated by students whose parents have an academic background. At this point, we are not yet in a position to hypothesize about cross-national differences or similarities in social selectivity into lower versus higher tertiary education. On the one hand, more stratified higher education systems (e.g., those with a larger number of programs at the tertiary level, including a Bachelor-Master distinction) should be more socially selective. On the other hand, we know little about the cost aspect of tertiary education in CEE countries. With regard to costs (i.e., tuition fees and student loans), there is no consistent cross-nationally comparable data for CEE countries that would distinguish between the lower and higher tertiary education programs. What we do already know is that returns to lower and higher tertiary education seem to be uniform across a number of CEE countries (Noelke et al. 2012).

Data and methodology

In this article, we re-analyze the data that have been used in a large-scale collaborative international research project (Kogan et al. 2011). Pursuing the tradition of large-scale cross-national comparative research (Arum et al. 2007, Blossfeld et al. 2009, Shavit & Blossfeld 1993, Shavit & Müller 1998), a network of experts contributed country studies of the social selectivity of education attainment as well as school-to-work transition using nationally representative data and following a common theoretical and methodological framework. We used national data sets for comparative research instead of international surveys such as the ESS (European Social Survey), or the ISSP (International Social Survey Progamme) because the former have the advantage of providing more detailed information and a larger number of cases, as well as covering a larger sample of CEE countries. Specifically, we analyzed retrospective school leaver surveys, retrospective life history studies and panel data.

All data sets contain a detailed set of variables on individual education attainment and parental education, among others, which allows us to analyze patterns of the social inequality of educational attainment. In order to guarantee the comparability of the data, we imposed a similar age range from 15 to 34 years, and we analyzed the effects of parental education on the education level attained when leaving education for the first time.[7] In all countries, we analyzed the social selectivity of educational attainment during the first years of the new millennium (2001–2006). The central independent variable is the highest educational degree attained at the point of labour market entry. Parental education measures the highest education level attained by either father or mother. We differentiate between four groups of parental education: lower secondary education or less, upper secondary education, professional secondary and tertiary education. Furthermore, we control for gender in order to account for variation in the gendered composition of educational attainment.

To analyze educational attainment, we rely on the sequential logistic regression analysis (Mare 1980). In the first step, using a sub-sample of secondary educated youths, we analyze the effect of parental education on (1) the odds ratios of entering the lower vocational track versus the upper secondary vocational track and (2) the odds ratios of entering the lower vocational track versus the upper secondary general track. We juxtapose youths with parents who possess lower-secondary education at maximum and those whose parents reached higher levels of education. In the second step, using the sub-sample of post-secondary educated young people, we analyze the effect of parental education on the relative chance of entering a higher tertiary (university Master or diploma programs) versus a lower tertiary track (i.e. post-secondary or lower tertiary, Bachelor degree, education). In

7 Some people may actually return to education after their first labour market entry and upgrade their education levels. However, their share is rather low.

doing so, we first contrast the educational choices of young people with tertiary educated parents versus the rest, and second, compare the educational attainment of youth with the least educated parents versus others.

Results of social selectivity analyses

In this empirical section, we have a detailed look at the social selectivity of education attainment in CEE countries characterised by different education systems in the new millennium. Specifically, we highlight how parental education affects the chances of attaining specific education degrees at the secondary and tertiary education levels. Furthermore, we investigate whether there are cross-country differences and if so, whether they can be related to institutional differences between countries.

At the secondary level, prior research focussing mainly on Western countries indicates that students from less privileged backgrounds are 'diverted' into vocational programs that lower their unemployment risks but also lead to lower status jobs (Müller & Shavit 1998, Shavit & Müller 2000). Can we reveal similar tendencies in the CEE countries? Apparently so, as results presented in Figure 3 suggest. Young people originating in families of the least educated parents (those possessing lower secondary education at the most) are more likely to select lower-level vocational tracks not leading to university studies in all countries shown. The effect appears to be stronger when we compare the odds of entering lower vocational education versus general secondary education (see the left bar) in Hungary, East Germany and the Czech Republic. These are all Central European countries that reinstalled early tracking following the Western German example.

Children of the least educated parents are also more likely to enter lower vocational tracks instead of upper-secondary vocational education, but the gap in this case is much less pronounced. A vocationally oriented nature of studies and prospects of entering the labour market appear more attractive for more risk-averse and resource-constrained students originating in lower-status families.

Our hypotheses about the stronger selectivity of higher tertiary tracks by students with academically educated parents are firmly supported by the data presented in Figure 4. Young people from families with highly educated parents are more likely to follow in their parents' foot-steps and choose higher tertiary education tracks (Master or diploma studies) instead of lower-level tertiary tracks (see the left bar), as compared to youth originating from families with parents with less than tertiary education. The differences are most pronounced in Hungary and Ukraine, the two countries in which higher tertiary education is more selective as the majority of youth actually graduate from post-secondary or lower tertiary tracks. The gap in the odds ratios of entering higher tertiary education for youth with tertiary educated parents is particularly high in Hungary, which might be related to the very exclusive character of higher tertiary education in Hungary.

In the right bar of Figure 4, we plot the odds ratios of youth with the least educated parents compared to other youths to attain higher tertiary education, as opposed to post-secondary or lower tertiary diplomas. A consistent picture is that young people originating in families with the least educated parents are more likely to be diverted into the lower tertiary education as opposed to more demanding higher education tracks. Note that the odds ratios for attaining higher tertiary education are below one. The diversion effect appears to be stronger in Hungary, East Germany and Serbia.

Overall, we can also see that common patterns of social inequality in higher education attainment prevail even in highly expanded and diversified post-secondary education systems. Reproduction of social origin is more pronounced when it comes to the preservation of social status among highly educated parents compared to the situation of the upgrade of social status among the least educated parents (Breen & Goldthorpe 1997, Erikson & Jonsson 1996).

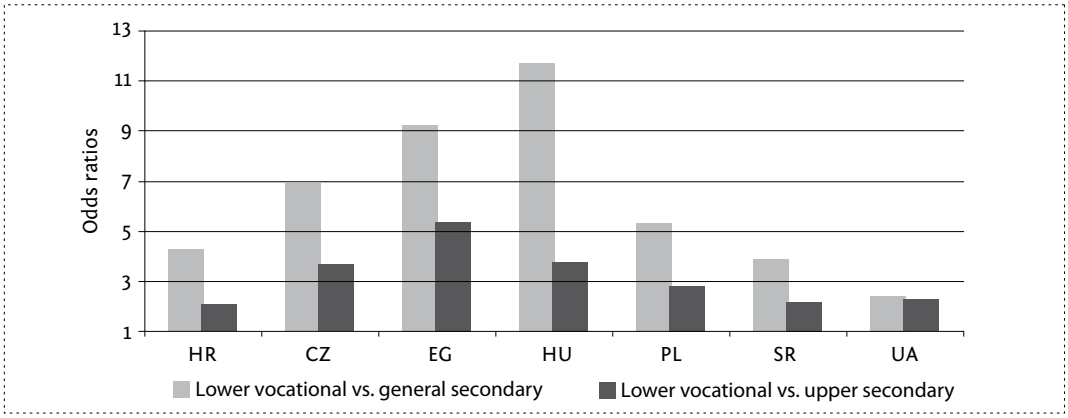

Figure 3: Odds ratios of attaining selected tracks at the secondary level among youth with lower secondary educated parents (compared to higher educated parents)
Source: Data from the project 'Education systems and labour markets in Central and Eastern Europe'

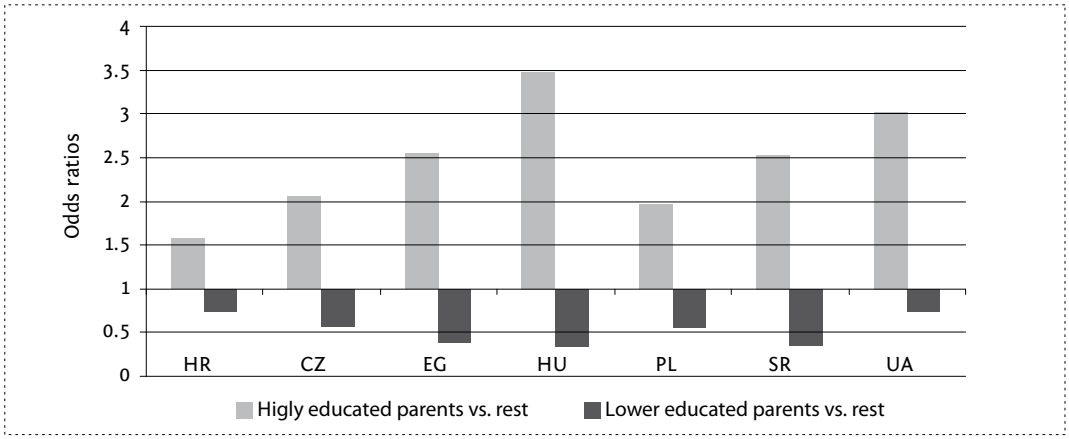

Figure 4: Odds ratios of attaining higher tertiary education versus post-secondary and lower tertiary education by social origin
Source: Data from the project 'Education systems and labour markets in Central and Eastern Europe'

Conclusions

Two decades after the breakdown of socialism in Central and Eastern Europe, we are in a position to analyse of the consequences of transformation for education attainment and social stratification in these countries. For many of the CEE countries we analyze, expansion and differentiation of tertiary education has proceeded at a speed hardly ever observed in Western societies, with substantial variations across countries in the quality of providers and in the role of market-based financing of higher education. At the same time, we observe a decline in the role of lower-level vocational schools at the secondary level, which had formed a crucial part of skill supply under the socialist production regime. While these post-transformation trends are general, we show that their dynamics differ depending on the national historic and institutional contexts.

Our analyses clearly show that in the CEE countries geographically and historically closer to Germany or Austria, the vocational orientation of secondary education has maintained its attractiveness. There the proportion of youth opting for lower-vocational tracks is higher, whereas training in these tracks is more likely to be organised in some form of apprenticeship system. Not least due to the reintroduced earlier tracking at the secondary level, the effect of the social origin on secondary track choice appears to be particularly high in these countries, whereas continuation rates to higher education seem to lag behind the numbers evident for other CEE countries.

A different education system model has developed in countries with post-Soviet heritage (Russia and Ukraine were analysed in this paper). Already under socialism, lower-level vocational education and training has been stigmatised there. Nowadays, secondary education in these countries is comprehensive and more general by nature, whereas vocational education, diminishing in size, is provided in a school-based setting. Higher rates of eligibility to higher education are translated to towering post-secondary enrolment rates, with growing numbers of graduates from both universities and second-tier vocational colleges.

Analyzing the social selectivity of educational attainment at secondary and tertiary education in these different CEE education systems reveals common patterns but also variations according to the institutional setting. At the secondary level, we can show that young people with the least educated parents are more likely to select lower-level vocational tracks that do not lead to university studies in all countries shown. The effect appears to be stronger in those Central European countries (Hungary, East Germany and the Czech Republic) that reinstalled early tracking.

Stratification patterns encountered at the secondary level are also reproduced and perpetuated at the post-secondary level with students of less privileged social background being diverted to more labour market oriented, short-term, post-secondary and lower tertiary education, whereas university diplomas are more likely to be attained by students from highly educated families. The patterns of selection by social origin vary across the countries analysed here, with social stratification at the tertiary level being particularly pronounced in Hungary, where higher tertiary education is rather exclusive. Other than that it seems difficult to relate the variation on social selectivity at the tertiary level to any established classifications. Since in all countries analysed here tertiary systems are of binary character, whereas in some countries an additional dimension of sequential organisation has been recently introduced, the typology of Arum et al (2007) of unified, binary and diversified systems hardly applies. A juxtaposition of private and public provides seems not to be relevant either, as public tertiary education institutions in CEE countries heavily rely on tuition fees and there is variation with regard to the salience of tuition fee programs at the lower and higher levels of tertiary education. It remains a task for future research to try and explain the cross-national variation in social selectivity at the tertiary level by focusing, among other things, on the role of tuition fees and student loans as mediators in the reproduction of social origin.

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